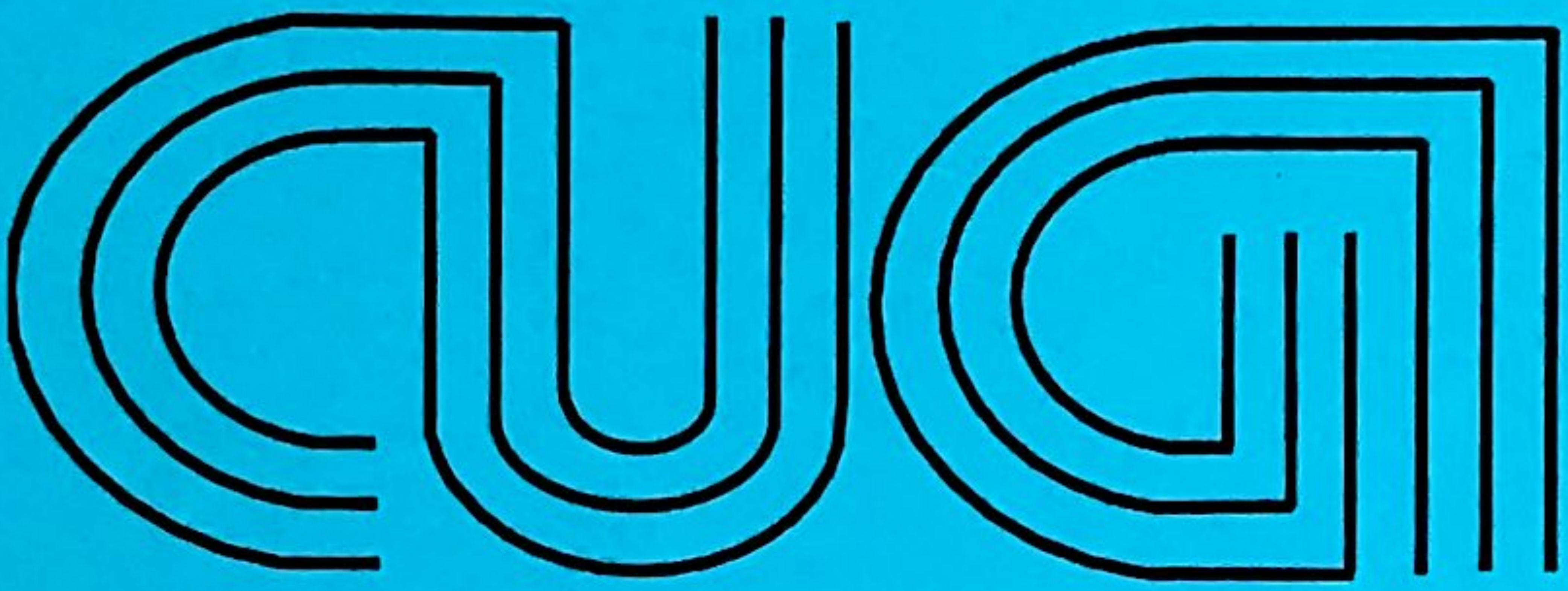

Newsletter

January 1994

In this issue...

- *CUGI's Guide to Comms*
- *GVP's A4008 SCSI Controller*
- *Future Entertainment Show*
- *Amiga CD-ROM Revealed*
- *Fidonet Points Explained*

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Editorial

Well, a new year, a new issue of the newsletter, and a new excuse as to why it's late. This time, however, I have a more ingenious reason than usual—I'm actually compiling this issue more than 4,000 miles away from home, in wintery Minnesota.

This originally started out as a three week trip to Minnesota before Christmas, to do some work on an OS/2 display driver. While I was there, the company decided that it would be beneficial to have me working on site at the development headquarters for a while—in a few months, we have a new high-powered graphics chip coming out, and a large number of software drivers will be needed to support it ASAP.

Naturally, I couldn't bear the thought of spending a large amount of time away from home without an Amiga, so I picked up a second-hand Amiga 3000, for a mere $700—not bad for a system which includes 5 Mb of memory, a 120 Mb hard drive, and one of the coveted high-density floppies.

Before Christmas, I had been lucky enough to pick up a SCSI DAT drive at a bargain price (you don't want to know), and so I was able to backup my home Amiga's hard drive onto a single DAT tape and take it back to the US with me in the new year. This was a lot faster than having to backup my system onto hundreds of floppies, as well as being infinitely more convenient.

Getting Connected

So, I was up and running with an Amiga, but something was missing—a link into Internet, to help me keep in touch with the rest of the world. A quick trip to the local computer superstore soon cured that, in the shape of a US Robotics Sportster V32bis fax modem ($189). A browse of *Internet World* (an excellent new magazine which covers the Internet) produced several possible networks that would give me a cheap link into Internet, and after some deliberation, I joined Delphi and Bix.

Both Delphi and Bix offer Internet services, as well as the usual message bases, online chat areas etc; my intention is to choose one of these services at the end of the month and let my subscription to the other lapse. At the moment, Bix is winning hands down—in addition to convenient Internet access, it has a wide variety of quality message conferences, including Commodore's US developer support areas.

Pricewise, both systems are fairly competitive, offering 20 hours of access a month for $20 (additional access is $1.80/hour) plus a monthly fee of $5 (Delphi) or $13 (Bix). Since local calls in this part of the US are free, the hourly cost is comparable to what I was paying back home (which basically amounted to Telecom charges).

Being on the Internet gives me several important advantages. First of all, I can keep up to date with Amiga happenings in the UK via my Cix account, since Cix is connected to Internet. In addition, I can access my Unix account in Ireland and keep up to date with email.

Since much of CUGI's committee business is now carried on by electronic mail, I can also keep up to date on the club's affairs and add my input where necessary. And of course, I can electronically transmit the final proof copy of the newsletter which you now hold in your hands. Finally, I can continue my long-term collaboration with Geoff on the development of AmigaMUD, since we can easily exchange ideas and code over the Internet.

The company is threatening to get a full Internet connection this month; if this happens, it may be possible for me to hook my Amiga directly onto the Internet, and FTP directly to my hard disk. This would also allow me to use *Mosaic* to browse the net, something I've read about but never had a chance to try. I'll let you know how I get on in the next issue of the newsletter.

Speaking of the newsletter, I'm happy to report that there was a last-minute surge of articles (isn't there always) which has managed to keep the page count to a reasonable number. As always, my thanks to all who contributed. And to those who didn't (you know who you are), start thinking about an article for the next issue!

Commodore: Sink or Swim?

It can't have escaped your notice that Commodore have been going through a bit of a bad patch recently, at least financially. Commodore Australia has just gone into receivership, and the CD^{32} has yet to be properly launched in the US.

All is not doom and gloom, however. In Europe, the CD^{32} is selling very well, with several hundred thousand units shifted to date—already substantially more than either CDTV or Philip's CD-i have managed. Equally important, games manufacturers seem to be gathering behind the CD^{32} in force. At last count, there were about 150 games already released or scheduled for release in the next six months. According to independent figures, CD^{32} software now accounts for 46% of all CD-ROM entertainment sales in the UK, no mean feat when you consider that this is quite a bit more than the next most popular system, the PC.

Hardware-wise, the CD^{32} faces some tough competition from the likes of 3DO and Atari's Jaguar. However, the 3DO is priced beyond the reach of most people, and the Jaguar lacks CD capability in its standard configuration. The Sega MegaCD, the only competitor in the same price range as the CD^{32}, is markedly inferior in just about every respect.

While the first wave of CD^{32} games were mostly re-releases of existing Amiga products, titles like Electronic Art's *Labyrinth* and Psynosis's *Microcosm* which take advantage of the CD's storage capacity are now starting to appear. Graphically, these look incredible, though how much gameplay they have remains to be seen.

Last time, I mentioned that I was awaiting delivery of a CD^{32} from Commodore. Well, it finally arrived, bundled with not only *Diggers* and *Oscar*, but also *Wing Commander* and *Mean Streets*. More usefully (for me, anyway) were the additional demos, which included the dinosaur morphing demo, a CDXL version of Commodore UK's 30 second CD^{32} TV ad, and some nice HAM8 photos.

Overall, I'm pretty impressed with the system. I've also picked up *Pinball Fantasies* and *RoboCod* (the latter including a rather nice CDXL cartoon intro), and they both look great hooked up to a large screen TV.

Next on my list will probably be an MPEG cartridge. CD-i video discs are now available in some local retailers over here and these will play fine on a suitably-equipped CD^{32} (contrary to some earlier reports). The prices aren't too bad either—typically about $19.95.

Eastern Bound

In between my two trips to Minnesota, I managed to squeeze in a trip to the far east, specifically Malaysia and Singapore. The main reason was that a Malaysian friend from college was getting married, and had invited several of us to his wedding.

After an enjoyable week soaking up the sun in Malaysia, we headed down to Singapore to check out the electronics and computer shops. The number of shops in this category was simply overwhelming. Imagine a shopping centre with six levels, each level being twice the size of a level in Dunlaoghaire shopping centre. Now imagine every single shop specialising in a particular type of electronics or computer components. And this was just one of many such centres! Not to mention all the stand-alone shops that lined the streets...

One slightly unusual feature was that very few items were tagged with prices—this was because competition was so fierce between shops. Having said that, while prices were good, I didn't find any fantastic bargains. Typically, most items worked out at 10-20% cheaper than the equivalent price in America.

Naturally, I kept my eyes open for the familiar Amiga sign, and I was rewarded in the third shopping centre we visited. Somewhat disconcertingly, however, all the software on the shelves seemed to be for the PC, despite a sign proclaiming it to be an Amiga dealer.

I asked the owner if he had any Amiga software, whereupon his face lit up and he produced a comprehensive up-to-date list of about 200 titles, in a nice ring-bound folder. The only things missing were prices (as per usual). When I inquired, however, I got a shock—I was quoted $4 per disk for games, $7 per disk for applications. Every single title in the list was pirated!

While it's common knowledge that piracy has been a big problem on the Amiga, this was the first time I'd come across such blatant abuse, in an authorised Amiga dealer of all places! (I assume it was an authorised dealer because of the presence of official advertising material and logos.)

Incidentally, a tip for would-be travellers to the east: Thai Air give superb in-flight service, and should be your first choice if you're heading in that direction.

AAA and Beyond

A question on many people's lips at the moment is, "Where is AAA?" It seems that machines utilising the fabled new 24-bit chipset are still a good few months away, but work is progressing nicely.

A recent online CompuServe conference with senior Commodore engineers Dave Haynie and Randell Jesup had some encouraging comments, to the effect that they have both evaluated the long term goals of Commodore and the chances of them being attained—and have decided to stay at Commodore to see them become a reality.

With the recent departure of several of Commodore's other top engineers for greener pastures (namely 3DO and Scala US), such news is reassuring. With any luck, there'll be an Amiga developer's conference in the next few months and we can get a closer look as to how far advanced the new machines are.

That's about it for this update. Enjoy reading the rest of this month's issue, and remember to get your articles into any committee member by 18 March at the latest!

E.C.

CUGI's Guide To Comms

by Colin Dalton

In all the fields of computing, comms has got to be one of the most confusing. With all those confusing V-numbers, and things like handshaking and flow control to worry about, it's easy to see why many people don't want to even begin looking at comms. Hopefully this little guide will help you on the way.

Buying a Modem

The general rule when buying a modem is: buy the fastest one you can afford. The faster the modem, the bigger the files you can conveniently download. For example, a 150K file would take nearly 12 minutes to download with a 2400 bps (bits per second) modem, but less than two minutes with a 14,400 bps model. Table 1 explains all the various V-numbers and shows how fast they are.

Other features offered by many modems are error detection and data compression. These features can be useful, but they have their drawbacks. Data compression is useful for interactive work such as reading messages online; for downloading, however, it doesn't help much since files are almost always compressed already using an archiver such as *LHA*. In some cases (e.g. MNP/5 compression) it can even lengthen transmission times. Error correction is invaluable if you have noisy lines, and can paradoxically give a small speed boost, even on good quality lines.

What's Out There?

Once you have your modem, you are ready to connect to a wealth of BBSs, providing services such as message bases, file areas and online games.

Message bases cover any number of topics, from computers to Star Trek to sport—some BBSs even have slagging areas! You can also send private messages to other users of the BBS, and on some systems, you can send a message to someone on a different BBS, say, in England.

Most BBSs have plenty of files to download. The latest PD and Shareware releases always hit the BBSs first, before they turn up in PD libraries. You can save a fortune in library charges (and spend a fortune in phone bills!) by downloading the files from a BBS.

Online games can be great fun, as you are playing against other humans and not just a computer. There are various types, from the famous *Hack & Slash* mediaeval role-playing game, to more recent ones such as the stockmarket game. However, since the recent increase in phone charges, such games have become something of a luxury.

V-num	Bits/second	Approx. Cost	Download 100K
V.22	1,200	£60	13 min 30s
V.22bis	2,400	£100	6 min 45s
V.32	9,600	£200	1 min 40s
V.32bis	14,400	£250	1 min
HST	16,800	£500	56s
V.Fast	28,800	£900	30s

Table 1. Modem types

Every BBS also has a sysop, who is usually more than willing to help you with any computer-related problem. If he can't solve it, there's a good chance he knows someone who can.

Setting Up and Connecting

Once you have your modem, you will need a communications package. Luckily, on the Amiga, all the best ones are free or shareware. *NComm* and *Term* are two of the most widely used. You must configure your comms package for use with your modem. This is fairly straightforward, and is usually well documented. Most (if not all) Dublin boards support all speeds from 1200 bps to 14,400 bps at 8 data bits, no parity and one stop bit (8N1).

Now you are ready to dial your first BBS! In your terminal, type `ATZ`, and press Return. Your modem should reply back with an `OK`. Next, type `ATDP2832829` and Return to dial CUGI BBS. After the `CONNECT` message appears, press Return and follow the prompts—it's quite easy!

Of course, it can be a bit tedious typing out the number of the BBS all the time, so terminal programs come with phonebooks, which you can customise for your local BBSs. Included on the CUGI Comms Disk is a copy of *Term 3.4*, complete with a Dublin phonebook with all the correct numbers entered for the local boards.

The logfiles that *Term* generates can be analysed by a program called *PhoneBill*, which can work out how much your online odyssey has cost.

Fidonet

Fidonet is a collection of thousands of BBSs, which transfer messages and files between each other at night, when phone rates are cheaper. It allows users to communicate with people in different countries without having to dial long distance. There are also message areas (called *echoes*) which are shared, so if you post a message asking about a particular program, there's a chance that the question might even be answered by the author himself!

Name	Number
Alien Line	280 0742
CUGI BBS	283 2829
Infomatique #1	872 1232
Infomatique #2	872 1239
Nemesis Dungeon #1	832 4755
Nemesis Dungeon #2	832 6900

Table 2. Dublin Amiga Bulletin Boards

You can also request the latest files from another Fido BBS (called *Freqing*). CUGI BBS is on Fidonet (as is Nemesis Dungeon) and carries Amiga-related echoes such as Workbench, Amiga Magazines (where representatives from *Amiga Shopper*, *Amiga Format* and *JAM* hang out), ARexx and Amiga DTP, among others, as well as some Irish and Dublin echoes.

The Internet

There is no such thing as the Internet per se, but the links between thousands of universities and companies worldwide go together to make one huge global network, commonly referred to as the Internet.

These computers exchange data in many forms through different services. The most basic of these services is email (electronic mail). Users usually have an address of the form `user@machine.site.domain`. For example, my address is `csdalton@unix1.tcd.ie`. The 'ie' stands for Ireland, 'tcd' is Trinity College, and 'unix1' is the name of the machine on which I have my account.

No one really knows exactly how many computers or users there are—as the Internet is anarchic, there is no central governing body. It is estimated that there are more than 20 million people contactable by email, with the number growing rapidly every month.

The next step up from email is Usenet news. This is like the message areas on a BBS, except far, far bigger. There are not many BBSs that could cope with the 84 Mb a day of a full Usenet feed! The news is broken down into different newsgroups. All the computer-related topics are grouped under the comp hierarchy; for example, comp.sys.amiga.hardware deals with discussion and questions on Amiga hardware and peripherals. Other popular areas can be found within the rec, soc, news, talk, and alt hierarchies.

There are plenty of 'famous' people who post to Usenet. Dave Haynie (designer of the A3000) for example pops up now and again to answer questions. New product announcements are usually posted to Usenet first, along with details of the latest shareware or freeware releases, movie reviews, and much more.

If you are having difficulties with a program, you have the minds of thousands at your fingertips. Many companies also provide technical support over Usenet, saving you long-distance phone calls to the US.

As a method of disseminating information, Usenet is very good. It's not so good at transmitting software, however, since it can't cope with binary files unless they've been specially encoded into ascii first. This is where anonymous FTP comes in. FTP stands for File Transfer Protocol, and through anonymous FTP, you can connect to a remote computer—even one on which you don't have an account—and transfer files.

In the Amiga world, the most famous sites are the Aminet ones. These are a collection of computers around the world that 'mirror' each other, so that any file uploaded to one computer is automatically distributed to all others in the group.

People can upload and download at speeds far greater than with normal modems, as the Internet consists of connections at speeds from around 64 Kbit/s right up to 45 Mb/s in the US. Most (if not all) new Amiga freeware and shareware is uploaded to Aminet, currently at the rate of about 12 Mb a week!

There are also sites specializing in weather maps and satellite pictures, NASA photos, the works of Shakespeare, and much more—you can even FTP a copy of the Irish Constitution from Trinity!

If it's information you want, one of the best places to try is a Gopher. You tell it what you want, and the gopher goes for it! There are thousands of gophers worldwide—you can even search the catalogue of the Library of Congress. Wide Area Information Servers (WAIS) take Gopher a step further, searching for data on different sites around the world.

Through IRC (Internet Relay Chat) you can talk with other people on the net in real time. Like Usenet, the IRC is divided into different topics called channels, the Amiga being served by the `#amiga` channel. You really begin to appreciate the technology when you are holding a discussion with people from Slovenia, the United States, Switzerland, Finland and Germany, all from the comfort of your own home.

However, all these services are text based, and not exactly a paragon of user-friendliness. In these days of GUIs, having to learn cryptic commands can be a bit tiring. This is where the World Wide Web comes in. The World Wide Web (or W3 for short) is a GUI front-end for the Internet's services.

If, while browsing through a catalogue of files, you want to download one, you can simply click on the filename and it will be FTP'd for you, no matter where in the world the file is located. W3 also allows for pictures, and even animations, to be included in documents, making the Internet easy to use and fun.

So now you know what it's all about, why not rent out the club's modem and give it a go?

Troubleshooting

- Downloads are okay, but uploads are full of errors.
  Check that you have RTS/CTS enabled, both in your communications software and also in the modem itself.
- Modem doesn't hang up.
  Try adding `&D2` *to your modem initialisation string.*
- You get a CONNECT message, but only garbage afterwards.
  Check that your modem and terminal are set at the right speed.
- Characters appear twice when you type them.
  Disable local echo (sometimes called half duplex).
- Only half the characters you get are recognisable.
  Your parity settings are wrong. Most services operate at 8N1; else try switching to 7E1.
- Modem sends dialling tones, but dialtone doesn't go away.
  You are not on a digital exchange. Set dial prefix to `ATDP` *instead of* `ATDT` *to use pulse dialling instead.*

Glossary of Terms

Telnet. A program which lets you log on to another machine on the network from your current machine.

IP number. Each computer on the Internet has its own address, known as an IP number. Additionally, most also have a name. For example, `unix1` in Trinity College has an IP number of `134.226.1.11`, and is also known as `unix1.tcd.ie`.

Parity. A simple form of error checking that adds a one or zero bit to the end of each byte of data to make the number of ones or zeros odd or even, depending on whether odd or even parity is set. Then the receiving computer can detect a transmission error by noticing if the expected parity bit differs from the actual parity bit.

ZModem. A protocol for transferring files over a serial connection. This is probably the best protocol to use, as it is one of the fastest, and offers many useful features, such as the ability to resume a previously interrupted download from the point where you left off.

Hayes Command Set. The standard codes sent to a modem to tell it to do things. All commands start with `AT` (standing for attention). For example, `ATZ` tells the modem to reset, and `ATH` tells the modem to hang up the line.

S registers. Used to store a modem's internal operating parameters. For example, `S0` holds the number of rings to wait for before answering the phone. `ATS0=3` tells the modem to answer the phone after three rings, while `ATS0=0` says to never answer the phone.

Caveat Emptor

by Matt Brookes

You can't get the staff these days—or so it would seem from the trouble I've had buying bits and pieces for my Amiga over the last few months. Compared to some of the dealers out there, Commodore are angels!

Last year I ordered a hard drive from WTS (you may remember that at the time, I announced at a meeting that their prices seemed quite competitive compared to others). Unfortunately, it seems where service is concerned, you get what you pay for. They debited my credit card immediately, but only after five weeks and four phone calls did they actually deliver.

You have to give them credit for the range of excuses they managed to think up when I enquired about my order though—everything from: "It was shipped last week. It was a modem wasn't it?" when I first enquired as to the hard-drive's whereabouts, to: "Oh, it came back smashed." when I phoned a week later.

Next, they were "having trouble loading the drive" (sic), and finally they were "waiting for wiring details from the manufacturer." Wiring details for a standard IDE drive? Hmmm... and just how had they been having trouble "loading the drive" if they hadn't wired it up yet?

Well, eventually I got my drive, but only after being charged more than the advertised price, and making Telecom rich in the process.

Disgusted with the poor service I had received, I posted an account of my troubles in one of the UK message areas on a local BBS. Judging from the number of responses I received, it seems I wasn't the only one who had had trouble with WTS, and there has been a steady stream of people posting tales of woe since. In fact, you'd be hard pressed to find anyone who *hasn't* had trouble with WTS.

Most recently, the subject came up in the Magazines Echo, where *Amiga Format* writer Richard Baugley can be found. Again, a number people voiced complaints about WTS, including a member of the South Wales Police Amiga Club—even the police can't get good service from WTS it would seem!

I queried why, given the number of people having problems, *Amiga Format* continued to carry WTS advertisements. At first they didn't seem to think there was a reason not to, but after further correspondence, I received the following message from Richard Baugley:

From: Amiga Format
To: Matt Brookes
Date: 01 Feb 94 14:05:34
Subject: Re: WTS problems.

In a message of 27 Jan 94 Matt Brookes wrote:

> MB> Whilst I can see your point about contractual obligations,
> MB> surely it is only fair to your readers that they should
> MB> know about potential problems?

We have now stopped accepting ads from WTS. I don't think we can really publish a "blacklist", as this would leave us open to all sorts of legal complications.

If you have a problem with an advertiser, contact Alison Winter on 0225 442244 Ext 2520. She co-ordinates dealing with problems with advertisers, and does her damndest to get satisfaction for you. She also feeds back these problems to the Ad executives, who book the Ads.

Richard Baguley
Amiga Format

So, if you have any outstanding business with WTS, it might be wise to follow it up now!

BBS Update

by Colin Dalton

There have been quite a few changes to the BBS since the last report, so here's what we've been up to. I am glad to report that an overwhelming majority (85%) of questionnaire respondants said that the BBS was a good idea. The number of callers has gradually been increasing, and since our inclusion in the World Wide BBS list, we have had calls from places as far away as the USA and Germany. Closer to home, some of our country members have been using it to keep in touch.

The first and most important change is that we are now part of Fidonet, the international network of BBSs. This means we now get message areas from all around Europe, and in the Amiga Magazines echo, the likes of *Amiga Shopper*, *Amiga Format* and *JAM* are represented. There are also areas where, if you have a hardware or software problem, you can ask for help, and with any luck it will be solved by some knowledgeable person. Unfortunately, due to cost, we are not providing private Netmail at the moment.

After having to send the first copy of our Fresh Fish CD-ROM back due to a virus, I am pleased to report that our replacement copy has arrived, and is now in use on the BBS. Users can now download Fish disks 600 to 950 directly, as well as some individual programs. These are also available for copying at meetings.

CUGI BBS is now an official distribution site for Amiga Report magazine, a weekly look at what's new in the world of Amiga, with all the latest news and reviews. Arrangements have been made to provide editions on floppy for copying at meetings, so that non-modem owning members can read it too.

So, if you haven't tried CUGI BBS, why not give it a call on (01) 283 2829? If you have been a member for at least six months, then you can hire out the club's modem for a small charge and see what all the fuss is about.

Amiga CD-ROM

by Eddy Carroll

Sometimes, things can work out rather nicely. About a year ago, I was in the process of persuading myself that I needed a CD-ROM drive for my Amiga when lo and behold, my company sent over a unit to help me with my ongoing OS/2 project. (The OS/2 developer toolkit is only available on CD-ROM.)

The drive was a NEC CDR-25 portable player, and most importantly, it used a SCSI interface. This meant that despite being aimed at the PC market, it would work perfectly well on any SCSI-equipped Amiga. Although my system is an A4000, I had already equipped it with a second-hand A2091 so that I could use my SCSI hard drive.

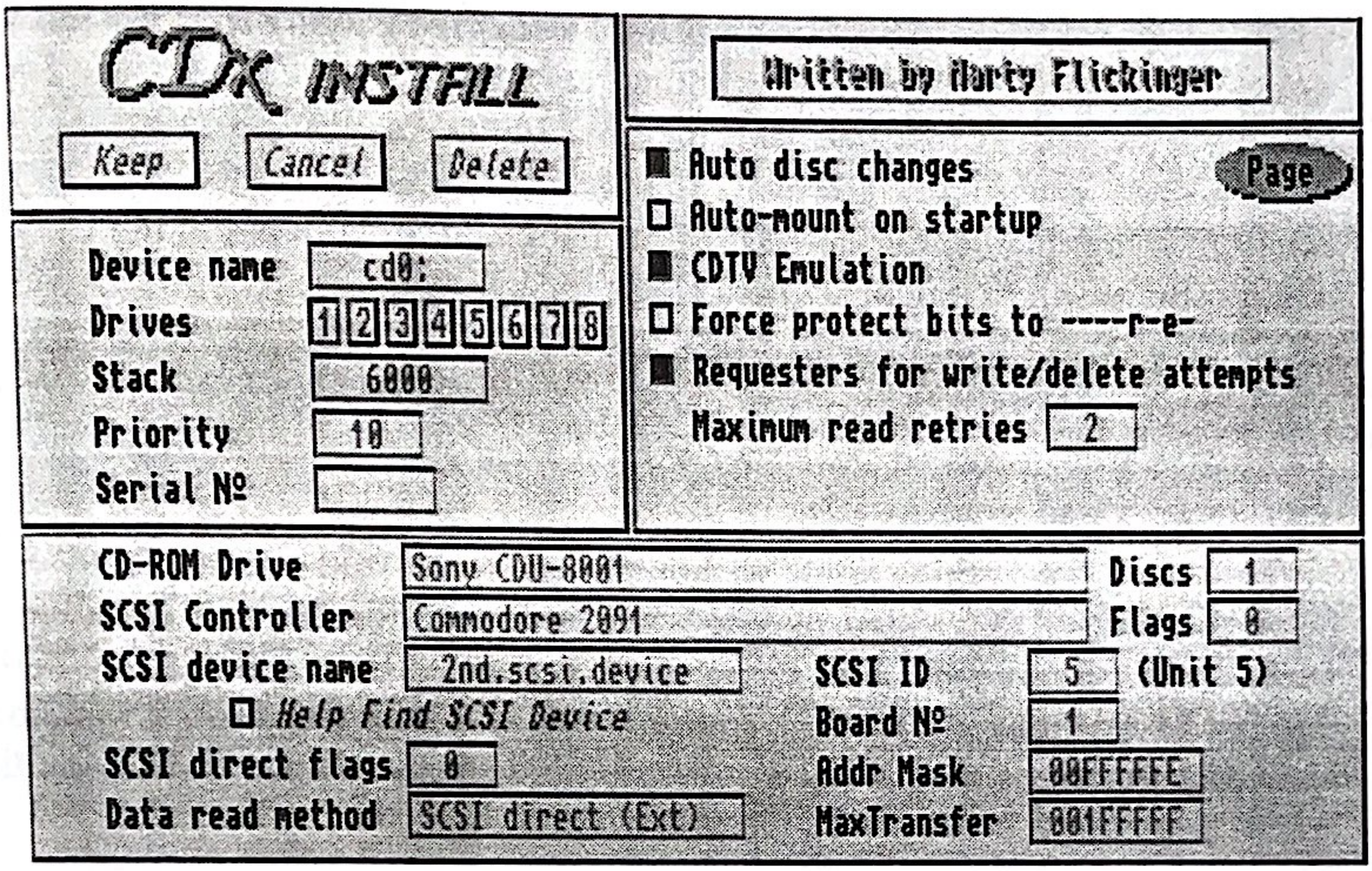
Of course, it wasn't just a matter of plugging in the CD-ROM; there was the small matter of a filesystem to interpret the data on the CD. For floppy and hard disks, the Amiga's FastFileSystem works well. However, CDs use their own format which requires special software to interpet. Although there are several different CD standards, almost all CDs of interest to Amiga owners come in ISO-9660 format. You may also encounter discs in Macintosh (HFS) format, but these would only be of use if you happened to have AMax or Emplant running on your system.

After a brief scan of the commercially available filesystems, I decided that Xetec's CDx offering had the edge on both price and performance. A quick call to Xetec's UK distributors, Almathera, followed and a few days later, I was £50 poorer and in receipt of the CDx package.

Installation

Installing the CDx software proved very simple—a full GUI-based install program is supplied by Xetec, and it included selections for both the A2091 and the NEC drive. One small hiccup was that on my system, the A2091's *scsi.device* is actually called *2nd.scsi.device*, since the former name is already used by the IDE controller. Editing the default device name was but a moment's work, however, and everything else went smoothly. Soon after, all the Xetec software (including several utilities, and CDTV-compatible libraries and devices) was installed safely on my System partition, and I had a new DOS device called `CD0:`.

In anticipation of this moment, I had already borrowed a few Amiga CD titles from CUGI's library: CDPD I (containing the first 600 fish disks, along with other assorted freeware) and *Nasa: The 25th Anniversary*. Accessing the CDPD disc was a piece of cake—all the files were easily accessible



Device name cd0:
Drives 1 2 3 4 5 6 7 8
Stack 6000
Priority 10
Serial №

■ Auto disc changes
☐ Auto-mount on startup
■ CDTV Emulation
☐ Force protect bits to ----r-e-
■ Requesters for write/delete attempts
Maximum read retries 2

CD-ROM Drive Sony CDU-8001
Discs 1
SCSI Controller Commodore 2091
Flags 0
SCSI device name 2nd.scsi.device
SCSI ID 5 (Unit 5)
☐ Help Find SCSI Device
Board № 1
SCSI direct flags 0
Addr Mask 00FFFFFE
Data read method SCSI direct (Ext)
MaxTransfer 001FFFFF

Xetec's Install Screen—it looks a lot nicer in colour!

both from the CLI and Workbench, and the only thing I noticed was that it took a bit longer to do directories than it did on my hard disk. Compared to sorting through 600 floppies looking for files, this was heaven.

I expected to have more trouble with the NASA disc, since it makes use of Commodore's CDXL video. Surprisingly, it appeared to work just fine—Xetec even included an icon specifically for it, to set certain CDTV-style parameters.

Murphy Strikes...

Alas, this idyllic picture did not last long. While viewing some of the CDXL video clips on the Nasa disc, the system suddenly locked up, leaving the SCSI access light lit. On the offchance that it was a fluke, I rebooted and tried a second time—a few minutes into the clip, exactly the same thing occurred.

Some more experimentation showed that the same thing happened when I tried to copy particularly large files from CDPD I. In short, it seemed like my NEC CD-ROM and A2091 weren't terribly compatible. I was willing to absolve the Xetec software from any possible blame here, since in the past, I've had similar lockup problems with certain SCSI hard drives and tape units and the A2091. (The A3000's SCSI interface seems to behave identically.)

What to do? Well, for a few months, I struggled gamely with my mostly-working system. It was certainly robust enough to let me access just about any file I wanted—I just had to remember to save any important files back to disk first! Eventually however, the random lockups, combined with the constant swapping of the CD-ROM unit back and forth between my PC and Amiga, became too much. Time to look for a permanent Amiga CD-ROM.

As luck would have it, I had just read Heiko Rath's excellent review of Apple's new CD300 SCSI unit in comp.sys.amiga.reviews on Usenet. With nothing to lose, I placed my order with a local Apple dealer, and £300 + VAT later, I had my new toy.

This time, everything went without a hitch. I could access all my files properly, and CDXL video played smoothly. In addition, the drive came with seven Macintosh CDs, along with a Kodak PhotoCD full of high-quality 24-bit images. While I couldn't run the Mac software, I was able to access the files using Xetec's software, and also to access the CD-audio tracks present on some of the discs.

Capture the Moment... with PhotoCD!

PhotoCD's really deserve an entire article to themselves. In brief, however, a PhotoCD is a special type of CD that can be written to by moderately expensive CD mastering equipment. Many Kodak dealers can now take your photo negatives and scan them at a variety of resolutions, from thumbnail 192 × 128 up to a massive 3072 × 2048. The images are compressed, so that a single CD can hold about 100 images, and each image is stored at five separate resolutions. It currently costs between £20–£30 to get a set of 24 negatives transferred to CD, but this is bound to get cheaper.

Since Apple had kindly provided me with a free sample of high quality photos, I was able to experiment without having to actually get a disc processed. To access the images, I first tried a utility that came with the Xetec filesystem called *PCDtoIFF*. The results weren't encouraging, however—it didn't understand all the resolutions, and often produced corrupted images.

My next attempt used a freeware utility called *hpcdtoppm*. This converted the PhotoCD images into PPM format, and from there, I was able to use another utility called *ppmtoilbm* to convert the images into IFF 24-bit. The results, when displayed on my Picasso board, were stunning. The standard TV-resolution images (768 × 512) were impressive enough but moving up to 1536 × 1024 revealed an amazing amount of detail. Doubtless, the top resolution (3072 × 2048) would have been even more astounding, but with only 18 Mb of RAM, I didn't get the opportunity to find out—working with 24-bit can eat up memory like nobody's business!

The Need For Speed

One of the selling points that attracted me to the Apple CD-ROM was its ability to support double-speed access, bringing the somewhat leisurely transfer rate of 150K/second to a more respectable 300K/second. For the first few weeks however, I didn't find myself sitting back in amazement at the supposed speed boost.

The reason why became clear when I happened upon a freeware CD-ROM filesystem called *AmiCDROM*, written by Frank Munkert. I installed it out of curiosity, to see if it had any interesting features not present on my Xetec filesystem. Surprise! Suddenly my Apple drive was pulling in large files about 5 times faster than before.

I'm at a loss to explain why the Xetec software was behaving so slowly—in my innocence, I assumed that this was standard for a CD-ROM. Nevertheless, extensive and repeated tests proved that AmiCDROM could pull in a megabyte of data in around 3–4 seconds, while the Xetec filesystem would chug away for a good 20 seconds doing the same job.

Time to dump Xetec? Well, not quite—it did include CDTV emulation capabilities, which allowed me to run a few fussy CDTV titles I had borrowed. It also has some handy utilities for playing audio discs directly from Workbench, or via a handy CD Player-like screen.

So, I've left CDx installed on my system for the time being, though of course I now use AmiCDROM for most of my work. For anyone buying a drive today, I think you'll find AmiCDROM is all the filesystem you need. The most recent release supports Macintosh HFS discs, as well as the Rock Ridge extensions to ISO-9660 which allow for extended filenames and file attributes. Another useful feature is the ability to map CD files with uppercase names (common in the PC world) to lowercase, which makes them much easier to read in directory listings and the like.

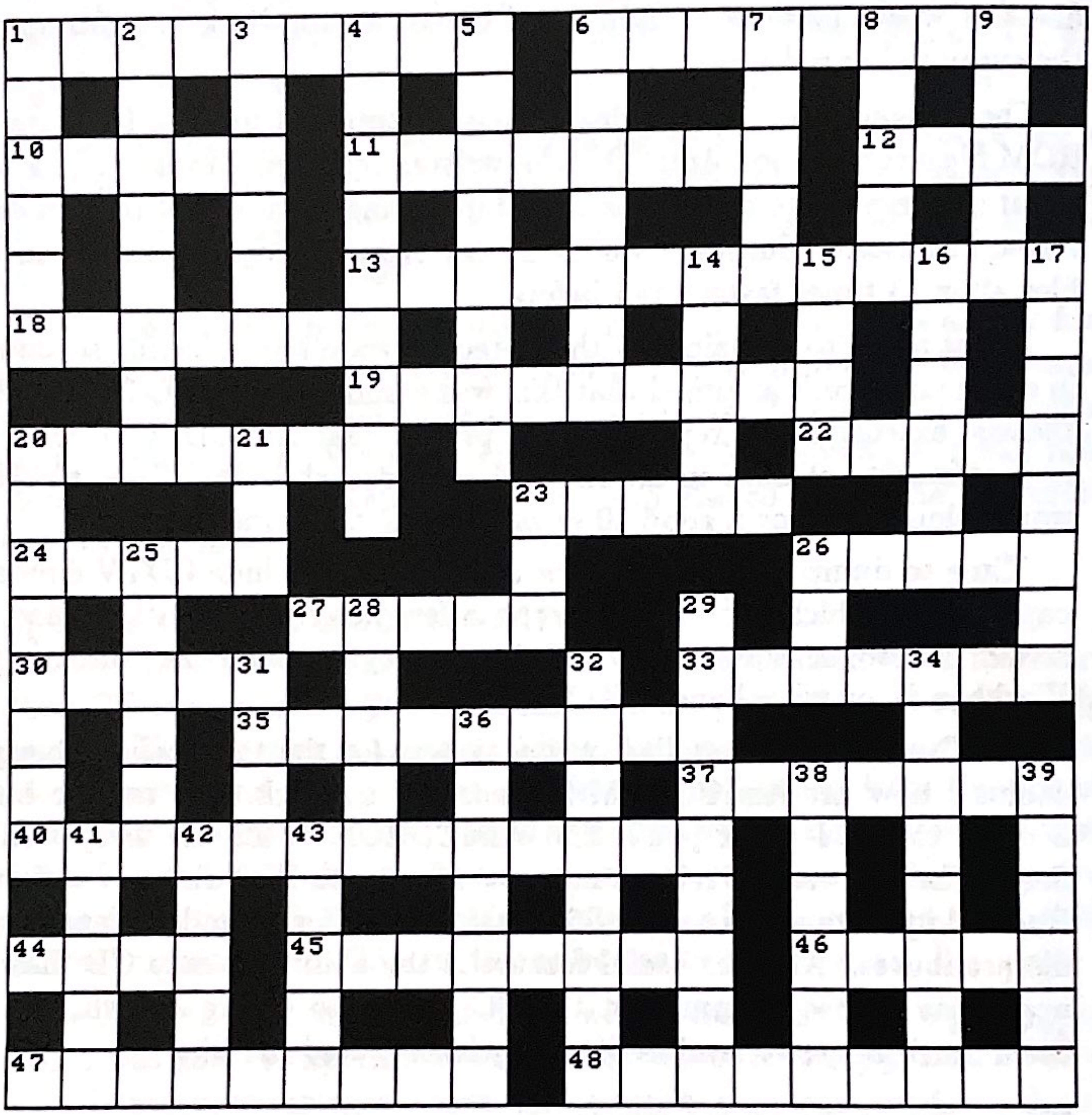
The Fun's Just Beginning...

Just as a car won't get you very far without petrol, a CD-ROM player needs a constant supply of CDs. It's amazing how quickly you can accumulate gigabytes of data without realising it—at last count, I had passed the 10 Gb mark. And have I fully explored all these discs? Of course not!

Why, then, you might be excused for asking, have I bought so many of the things? Excellent question. I'll try and answer this in the next issue, when I look at some of the titles I've found most interesting. In the meantime, if you're contemplating buying a CD-ROM for yourself, go ahead and take the plunge—you won't regret it!

CUGI Crossword #10

by Aidan Hollinshead



Across

1. How Eddy might describe a bridge as designer (9)
6. This has three of itself (9)
10. Tours the doughnut (5)
11. Strengthened by getting angry (8)
12. A good colour for an Armada (4)
13. Clearly shown plans to make N less heavy (13)
18. Maturer mistake (7)
19. Preserves the altars back to the NE (9)
20. Can you really fit everything into this bag? (7)
22. Spice up long stories (5)

23. Turn the vice the other way round (5)
24. Don't be first for the explosion (5)
25. A Belgian lord (5)
27. The last Greek (5)
30. Exams sat in setts (5)
31. Approaching how the nurse would order you back to your rooms (7)
32. Is the main attraction a cause of wrinkles? (9)
37. Scratching the idea of getting a lift, guv (7)
40. Toils on in maze to make something holy (13)
44. Eastern ruler who got involved in the arts (4)
45. A vile tax has a loosening effect (8)
46. Fix the east to make a correction (5)
47. Seaplaned across the level space (9)
48. Could the former farm machine be a fan? (9)

Down

1. The shrewd statue (6)
2. Military punishment (8)
3. Cause offence in mixed up lust (6)
4. The egg is at the start of Cork's river, to the utmost (9)
5. Sounds like eternal fashion is in a hurry (8)
6. She even put her rags on a horse (7)
7. Gödel's house (5)
8. Accuse the Latin of being good in a Bourbon umbrella (5)
9. Does the sprite not see the point in eleven? (5)
14. Large scale water-weapons (5)
15. Is cogniscent of the facial feature (4)
16. Can you get the whole tree in? (6)
17. Video equipment in the kitchen (8)
20. Its a bath that animals live in (8)
21. Colonial animals (3)
23. By way of a Roman duct (3)
25. Attack a ship's propulsion system (6)
26. In where you find half your family (3)
28. City that thinks it's a motorway (5)
29. Put one of Tolkien's tree people on a line (9)
31. Fake found in a posh amphitheatre (4)
32. Is Aleph without end? (8)
33. Use of money looks like clothes for Rudolph (8)
34. Sounds like the year of the Welsh is porous (7)
38. In this is without it (6)
39. Take a look at the goose (6)
41. Nothing without change is lush (5)
42. Lorne came back to join (5)
43. Mr. Carruther's claim to fame (5)

The Future Entertainment Show

by Kieran Tully

Along with my father, brother and a friend, I recently attended the second Future Entertainment Show in Olympia, London, which ran from 11–14 November, 1993. The show was organised by Future Publishing Ltd, publishers of many excellent leisure magazines, including *Amiga Shopper* and *Amiga Format*. As the show's title suggests, this was an entertainment show, covering games and serious software (both equally entertaining :-)) on a variety of platforms, including the Amiga, PC and various consoles.

The show start was something of a disaster. People were queuing to get in well before the official opening time. Despite what was advertised, tickets were available at the door; this wasn't too annoying, considering that tickets cost slightly more if you hadn't pre-ordered (I had), but what was definitely annoying was the fact that there were two separate queues—one for those who had booked tickets, and another for those who had not. Guess which queue the doors were opened to first, whilst the people in the other were left standing squashed and crowded? Considering we had got off a ferry at 1:00 A.M. that morning, we were in no mood for this.

Once we got in, we were instantly assailed by loud (very loud!) music, and due to this, it was impossible to hear yourself speak, let alone communicate with anyone else. This caused problems on some of the stands—it was quite impossible to talk to some exhibitors and discuss prices, etc.

The show was obviously aimed at young people, and the majority of the attendants were under the age of thirty, although I did see a few families there too. Games were the order of the day; a huge gaming arena dominated the front two thirds of the hall, with lots of new games on Amiga, MegaDrive and SNES to try out. If games are your cup of tea, this was excellent—it would have been quite possible to spend the whole day in that section alone, and still not have a try at everything.

Nearer the back of the hall was where the real action could be found. Commodore were out in force, with their World of Amiga section. Easily the most prevalent machine here was the CD^{32}, with roughly five for each A1200 and A4000 combined. The A600 was practically non-existent as a demo machine, but was available for sale at around Stg£150. This emphasised Commodore's move towards AGA and 32 bit as the base machine specification, banking heavily on CD^{32} to keep the company alive until the new high-end machines appear. Commodore were claiming that CD^{32} was the best selling hardware item so far at the show—if this was true, then it bodes well for the future of the Amiga, in Europe at least.

Also in this section was a live band hooked up via MIDI to an Amiga 4000 running *Bars & Pipes Professional* from Blue Ribbon Soundworks. This worked well, as the band were able to demonstrate how capable the Amiga is as a sequencing powerhorse, with software now quickly reaching the standard of that available for the ST and Falcon. (Interestingly, I didn't catch one glimpse of the elusive Falcon at the show.)

And what about software for these machines? On the CD^{32} front, some games were available, with many more promised. Unfortunately, none of the games currently available really utilises the capabilities of the CD^{32} fully, with the better ones being old Amiga favourites. Hopefully, really innovative titles will start to appear soon.

CDXL-II was also present, with two video walls constantly showing snippets of a Northern Electricity presentation, amongst others. This was quite impressive from a distance, although nowhere near the quality of the forthcoming MPEG board.

The show also heralded the launch of some serious Amiga titles. Vidi-Amiga 24, the successor to Rombo's Vidi-Amiga 12, is a graphics digitiser that now supports grabs of 24 bit true colour, great for AGA machines and Picasso owners.

TechnoSound Turbo II from New Dimensions was also available, the main difference from TechnoSound Turbo being direct to (hard) disk sampling. Available for a Stg£15 upgrade fee to registered owners, I decided not to take the plunge, partly because the man on the stand was quite prepared to let me walk away with it without showing proof of ownership of Version 1 (perhaps pratts have an honest face, eh Geoff? :-)) and this didn't improve my confidence in how much the improvements were actually worth.

There was also a slideshow of *Wordworth 3* running, with Digita shifting *Wordworth 2* by the boxload. *Final Writer* (remember where you saw it first?) from Softwood was also on show, and selling well.

The 24 Bit Club had a stand, on which they were demonstrating the graphics capabilities of the Amiga combined with the Video Toaster. This was excellent, but unfortunately was just a demo—there was no opportunity for hands-on experience of the Toaster software.

ICPUG also had a small stand, and were quite surprised to hear about the band of miscreants in Ireland claiming to be a regional division of ICPUG. Lawsuits were threatened, and the name CUGI scorned. "What's that? Japanese or something?" commented one of the exhibitors ;-)

Quickly moving on, what else was there to see, I hear you ask. One stand was showing off the latest in consoles and hardware, including 3DO, CD^{32}, CD-I, and even the Atari Jaguar (which is actually 16 bit with a 64 bit RISC graphics co-processor, and not true 64 bit, as has been claimed.) Also on this stand was the latest in Virtual Reality hardware. I didn't bother to queue for this one—it looked like all the other VR systems I've seen.

On the Philips stand was CD-I, their answer to CD technology. Perhaps the only notable thing about this system at the moment is that it is the first to have an MPEG board available for sale to the general public. What little software is currently available is certainly not amazing, suffering from somewhat unsure marketing, positioned as a multimedia, educational games machine. The MPEG board (which all who come to the meetings have seen) was drawing crowds though—people seemed amazed that CD's could also hold video footage.

Software and hardware was available at bargain prices from many of the stands. The cheapest disk price I could find was £2.00 for a box of ten DS-DD. Closer inspection revealed that these were unbranded and made in China, coming in a variety of colours from stark orange to more sensible grey. At 20p each though, I could afford to take the risk—so far, only one of the 20 I bought has failed.

Alfa-Data were selling a 127 Mb 2″ Conner IDE hard drive, including lead and *Install 3.0* for only £190! The guy on this stand was quite smug that this was the lowest price at the show for this size, and consequently other retailers had reduced their prices to £200. He seemed to know exactly what he was talking about, and acted as if this was not as low as he could go if pushed. I also saw a similar 60 Mb drive on another stand for £99. Compared to these bargains, the prices quoted in the Amiga press up until very recently seem scandalous.

So, am I glad I went to the show? The main reason I went was to get a bargain price on a hard drive for my A1200. On this score, I was satisfied, obtaining a slightly bigger size then I had expected. Will I go next year? Possibly—if I can think of something else to spend my father's money on. (I wonder how much 4 Mb of RAM will be next year…)

Thumbing through this month's Amiga Shopper, it appears that the FES adversely affected the attendance at the fifth International Computer Show, held only a week later—the expected minimum of 12,000 people was reduced to an estimated 3,000 in total, and the most disappointing day had only 400 visitors, causing some exhibitors to close their stands early. I had considered going to the ICS instead; in retrospect, although there were a few bargains at the ICS also (A600's for £99!), I probably made the right choice, and enjoyed myself thoroughly.

FidoNet Fumblings

by James Ruane

It's been quite a while since I looked at FidoNet (back in April 1992, in fact) so I think it's probably quite opportune to take another look at Fido, especially as CUGI BBS has now added FidoNet to its range of capabilities (CUGI's Fido address is 2:263/155.0).

What is a Point Anyway?

A *point* is so named because its FidoNet address contains a '.' or point. (Full FidoNet *node* addresses have only 3 primary numbers.) The number following the point indicates the *sub-address* of the main address. For example:

```
2:263/155.3
```

In the above address, you can see that the point is number 3 off the main CUGI BBS address. Points differ from full FidoNet nodes in that they are not listed in the *nodelist*. The nodelist is FidoNet's phonebook, containing the names and phone numbers of all the BBSs connected to Fido. As such, points are reliant on their *bosses* to collect mail for them, which they then call to collect.

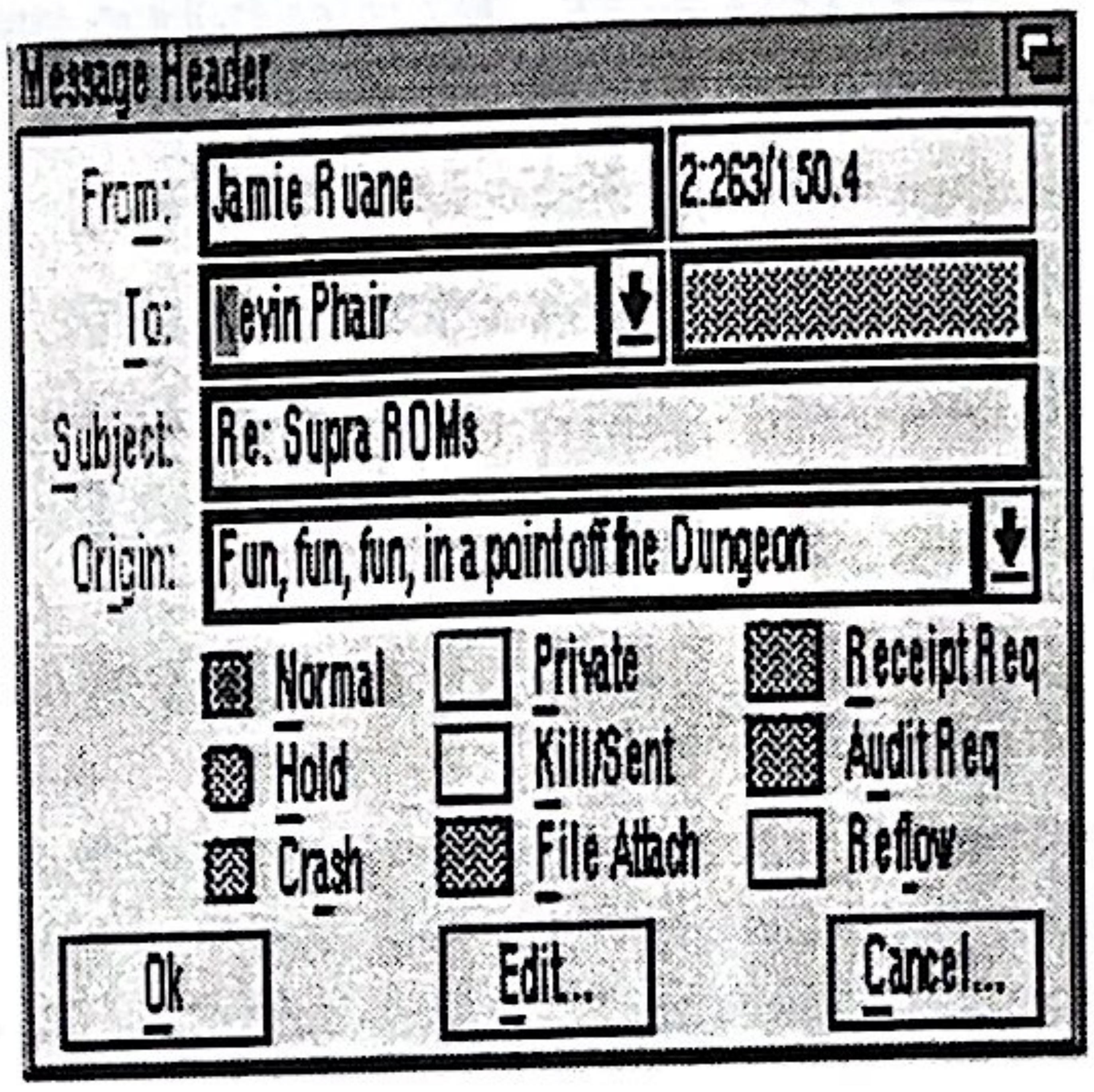
Points tend to be used by one person, whereas full nodes are more likely to be complete bulletin boards. This isn't always the case though—there are BBSs which are points, and nodes operated by a single person.

Point Software

One of the best FidoNet point programs I have ever seen is *Spot*, by Nico François (who also wrote *ReqTools*, *ToolsDaemon* and *PowerPacker*). It has an excellent interface, is fully Style Guide compliant, includes a full ARexx port, and is generally wonderful. `:-)`

One of the advantages *Spot* has over *Foozle* (which is what I used before) is a better message base handling method which creates a large file on your hard disk containing the messages, as opposed to lots of little files, thus reducing fragmentation. The downside of this is that if you crash your Amiga in the middle of a message import, the message base begins to act strangely by losing messages. This is easily cured by deleting and re-creating the message base.

Spot can also be completely keyboard-controlled, so browsing through messages is quick and effortless. If you're writing lots of messages, not having to take your hands from the keyboard is a real bonus.



From: Jamie Ruane 2:263/150.4
To: Kevin Phair
Subject: Re: Supra ROMs
Origin: Fun, fun, fun, in a point off the Dungeon

☒ Normal ☐ Private ☒ Receipt Req
☒ Hold ☐ Kill/Sent ☒ Audit Req
☒ Crash ☒ File Attach ☐ Reflow

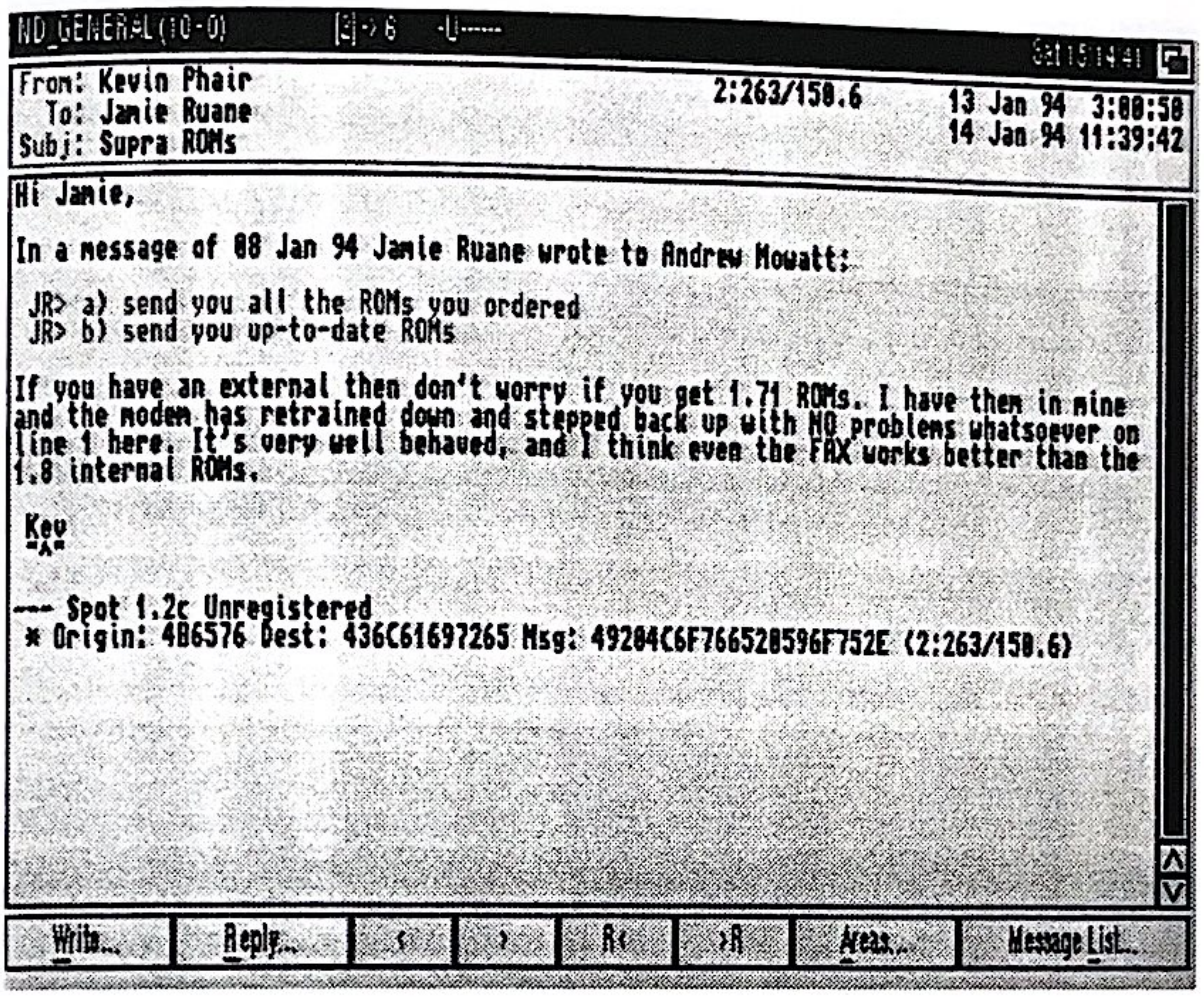
It's easy to reply to messages using Spot.

What really makes *Spot* so good is the attention to detail paid by the author. All the features you could possibly need are present: taglines, multiple networks, aliases, signatures, a userlist, and more! The small touches are incredible. For example, the * symbol is commonly used in EMail to indicate emphasis, so *Spot* converts any word written between two *'s to boldface. Similarly, '/' and '_' produce italics and underlined text respectively. It will even reflow text so that the quotes in your replies look neat!

Power is not compromised, however. *Spot* has incredible support for multiple networks, multiple usernames, multiple addresses, and so forth. What this means is that if you are pointing off two different BBSs, the difficulties you would have experienced using earlier point packages are eliminated. Similarly, if you are pointing off one BBS, but receiving two networks (for example FidoNet and AmigaNet), *Spot* takes care of it. All the usual commands are supported; you can flag messages as Private, CrashMail and so forth, and you can also do a *File Attach*, where *Spot* prompts you for a file to accompany your message.

Spot also has full ScreenMode support, so you can run it on a Picasso board, should you have one. On top of that, *Spot* has a powerful ARexx port, and comes with some scripts to allow you to (among other things) generate statistics for a particular message area, UUencode and UUdecode a message (UUencoding and UUdecoding are commonly used when sending binary files via email) and steal taglines from messages.

However, the ARexx port, as well as a few other features, are disabled in the unregistered version. Yes, *Spot* is shareware, but all this power comes cheaply: registration is 1000 Belgian Francs, about £20. Incidentally, it



```
From: Kevin Phair                                 2:263/150.6      13 Jan 94  3:00:58
  To: Jamie Ruane                                                  14 Jan 94 11:39:42
Subj: Supra ROMs

Hi Jamie,

In a message of 08 Jan 94 Jamie Ruane wrote to Andrew Mowatt:

 JR> a) send you all the ROMs you ordered
 JR> b) send you up-to-date ROMs

If you have an external then don't worry if you get 1.71 ROMs. I have them in mine
and the modem has retrained down and stepped back up with NO problems whatsoever on
line 1 here. It's very well behaved, and I think even the FAX works better than the
1.8 internal ROMs.

 Kev
 "^"

--- Spot 1.2c Unregistered
 * Origin: 486576 Dest: 436C61697265 Msg: 49204C6F766520596F752E (2:263/150.6)
```

Message-reading made easy using Spot.

needs WorkBench 2.04, and if you are running under WorkBench 2.1 or greater, full localisation is available.

Finally, *Spot* supports the FidoNet NodeList, so that when you write a message, some information is displayed, such as the BBS the message is going to, the SysOp of the BBS, the cost and so forth.

Why bother pointing?

Pointing has all the advantages of the offline readers discussed in the last CUGI newsletter, and a few more besides.

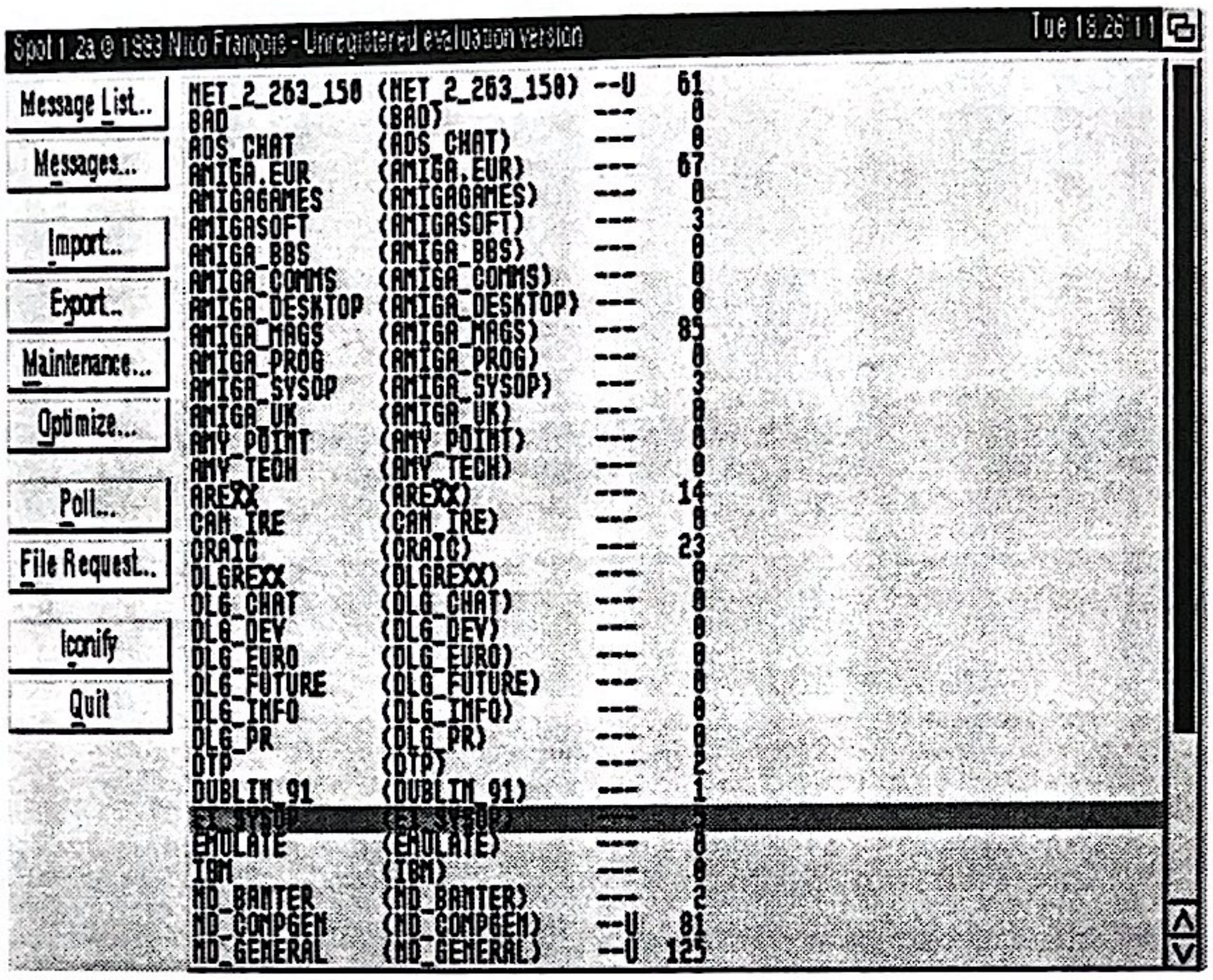
First off, pointing is far more efficient, as you don't have to wait online for your mail to pack. That means that you can perform a full mail poll in under three minutes. As one point user recently said, "I like to call during peak hours, as I feel I'm getting the best value for money."

A recent innovation is that many BBSs are offering their local areas as FidoNet echoes to their points, so that the points can read the local areas as well as the primary FidoNet echoes.

Also, in my opinion Spot provides a far superior mail-reading environment to any of the available Amiga offline readers.

Do I need any other software?

Yes, you need a mailer to call the BBS and download the mail packets. The premier Amiga mailer is *TrapDoor*, which is currently at version 1.83. This



```
NET_2_263_150 (NET_2_263_150) --U  61
BAD           (BAD)           ---   0
ADS_CHAT      (ADS_CHAT)      ---   0
AMIGA.EUR     (AMIGA.EUR)     ---  67
AMIGAGAMES    (AMIGAGAMES)    ---   0
AMIGASOFT     (AMIGASOFT)     ---   3
AMIGA_BBS     (AMIGA_BBS)     ---   0
AMIGA_COMMS   (AMIGA_COMMS)   ---   0
AMIGA_DESKTOP (AMIGA_DESKTOP) ---   0
AMIGA_MAGS    (AMIGA_MAGS)    ---  85
AMIGA_PROG    (AMIGA_PROG)    ---   0
AMIGA_SYSOP   (AMIGA_SYSOP)   ---   3
AMIGA_UK      (AMIGA_UK)      ---   0
AMY_POINT     (AMY_POINT)     ---   0
AMY_TECH      (AMY_TECH)      ---   0
AREXX         (AREXX)         ---  14
CAN_IRE       (CAN_IRE)       ---   0
CRAIC         (CRAIC)         ---  23
DLGREXX       (DLGREXX)       ---   0
DLG_CHAT      (DLG_CHAT)      ---   0
DLG_DEV       (DLG_DEV)       ---   0
DLG_EURO      (DLG_EURO)      ---   0
DLG_FUTURE    (DLG_FUTURE)    ---   0
DLG_INFO      (DLG_INFO)      ---   0
DLG_PR        (DLG_PR)        ---   0
DTP           (DTP)           ---   2
DUBLIN_91     (DUBLIN_91)     ---   1
[illegible]
EMULATE       (EMULATE)       ---   0
IBM           (IBM)           ---   0
MD_BANTER     (MD_BANTER)     ---   2
MD_COMPGEN    (MD_COMPGEN)    --U  81
MD_GENERAL    (MD_GENERAL)    --U 125
```

Spot *makes browsing your message base effortless.*

doesn't add much to v1.80, which I reviewed back in 1992, except for fax and public screen support. However, don't let that put you off: *TrapDoor* has one of the fastest ZModem implementations around (it calls it ZedZap) and makes up for its lack of an Intuition interface with pure speed.

There are many utilities available for FidoNet points. For example, there are programs to analyse email in a certain area, automate the posting of messages and much more, though these are not essential. A complete FidoNet point setup can be run using only *TrapDoor* and *Spot*, from floppies if necessary.

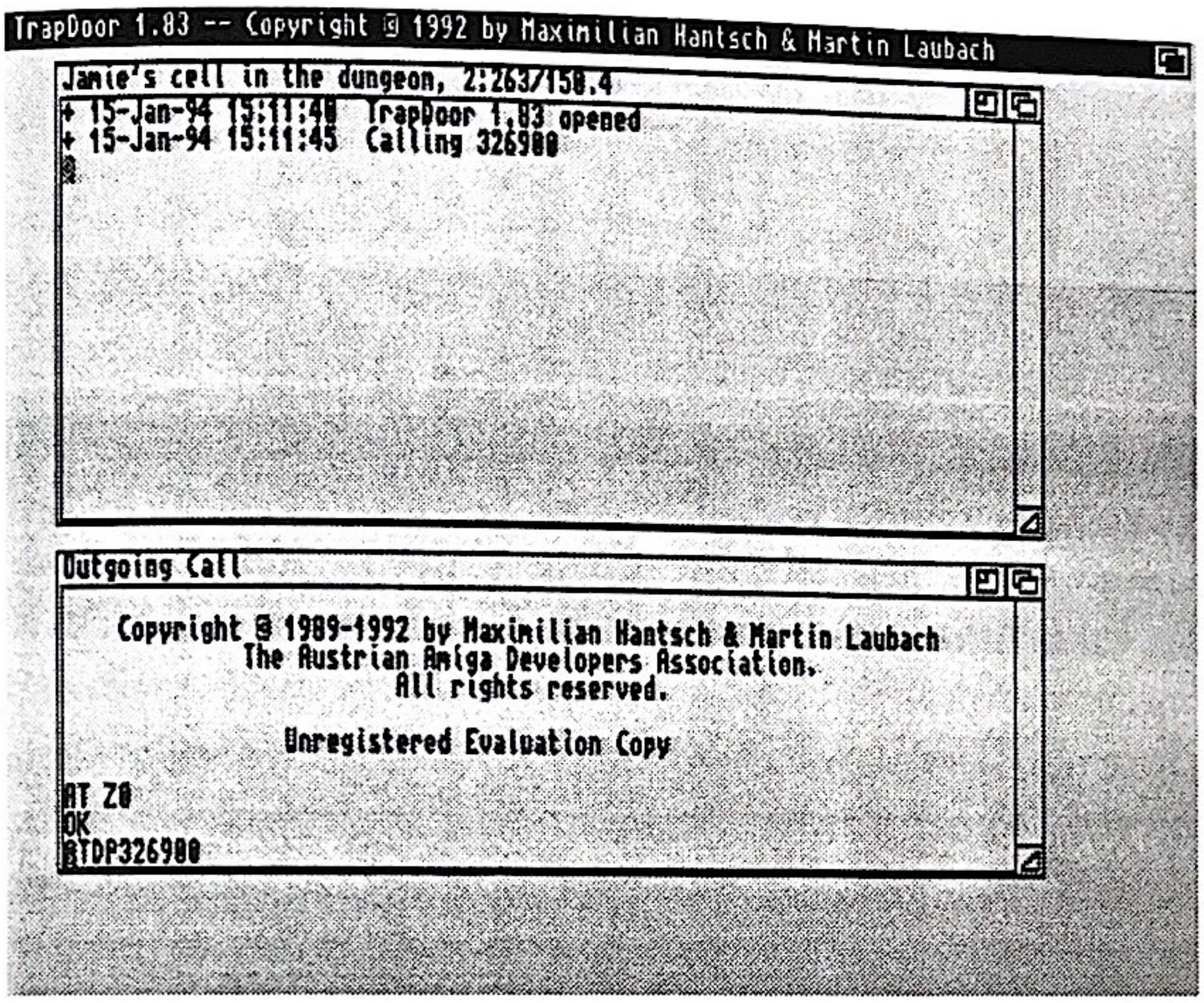
Spot is available from Nemesis' Dungeon as SPOT12C.LHA, and *TrapDoor* is available as TRAPDOOR1_83.LHA.

How do I download files?

FidoNet allows points (and BBSs) to make *file requests.* As the name suggests, this is a request made to a BBS for a file. Using file requests, you can download files without having to log onto the BBS, and the download can be done during the same call as a mail poll.

A further advantage is that you can download a file from a BBS on which you don't have a user account. Using file requests means that you can get the file quickly, which is a real bonus on long-distance calls.

Spot allows you to create file requests with ease. When you select its *File Request* command, a window opens, containing a ListView into which


TrapDoor 1.83 -- Copyright © 1992 by Maximilian Hantsch & Martin Laubach
Janie's cell in the dungeon, 2:263/150.4
Outgoing Call

```
+ 15-Jan-94 15:11:40  TrapDoor 1.83 opened
+ 15-Jan-94 15:11:45  Calling 326900
```

```
    Copyright © 1989-1992 by Maximilian Hantsch & Martin Laubach
              The Austrian Amiga Developers Association.
                        All rights reserved.

                  Unregistered Evaluation Copy

AT Z0
OK
ATDP326900
```

Trapdoor *has a sparse, yet functional interface.*

you type the files you want. You also include the FidoNet address of the BBS you are requesting the files from. When you are done, *Spot* creates the request file, and the next time you call the BBS in question, the files are downloaded.

With Telecom's ever-increasing phone charges, it is becoming more and more expensive to be a regular BBS caller. With a copy of *Spot* and *Trapdoor*, you can keep the costs to a mimimum, and enjoy a much nicer user interface as well. Give it a try—you'll be glad you did!

The Amiga Guru Book

by Eddy Carroll

The market for books on the PC is huge, covering all the topics under the sun—if you want a book to tell you how to produce knitting patterns on your PC, the chances are good that you can find one.

The Amiga book market, however, is a much quieter place, offering neither the range nor choice available to PC owners. Most of the books available are aimed at the novice user, and of those aimed at programmers, many suffer from inaccuracy and promote bad programming practices.

How rereshing, then, to come across a new technical reference that is not only detailed, accurate and comprehensive, but well-written and entertaining as well. The book in question is Ralph Babel's *Amiga Guru Book*.

Ralph Babel is no stranger to the Amiga, having written many of GVP's device drivers. The Guru book is based on an earlier German book of his, *Das Amiga-Guru-Buch*, but has been translated into English, and at the same time, fully revised and expanded to cover the most recent AmigaDOS and Exec features up to Workbench 2.1.

In essence, this is a reference guide which takes up where Commodore's Rom Kernel Manuals leave off. As such, it is aimed squarely at the experienced Amiga programmer. Although it weighs in at a hefty 736 pages, including a comprehensive 30 page index, there is very little waffle—just solid information on a range of topics hithertho confined to the realm of black magic. Subjects covered adequately in the RKM's, such as message ports and device i/o are not given much coverage. Instead, the focus is on what Commodore *doesn't* tell you.

Novices Beware

The Guru guide begins with an overview of the datatypes used by the Amiga, including the various floating point formats. The 68040's restricted set of FPU instructions is also covered. This is followed by a detailed set of programming guidelines (40 pages) which cover in depth the do's and don'ts of programming the Amiga. This isn't a simple rehash of Commodore's RKM guidelines either, but covers such items as why you don't want to use software interrupts, how to safely increase the size of your stack, and other similar items. A useful reference chart lists every function that allocates any kind of resource in the Amiga's libraries, and the matching call to free that resource.

The first section finishes off with an overview of assembly language and C programming, along with explanations of all the `amiga.lib` functions.

Tricks such as how to drastically reduce the size of your executable are well covered here, as is the use of the serial debugging library `debug.lib` and its parallel port cousin, `ddebug.lib`.

The second section is concerned with the Amiga's system internals. This includes such esoteric subjects as how to access the Amiga's battery-backed clock, creating your own Kicktags (used to allow your code to survive a system reset), and the correct use of Exec's ColdCapture, CoolCapture and WarmCapture vectors. If you've ever wondered how system initialisation changed between Kickstart 1.3 and 2.04, you'll find the answer here.

DOS Dissected

The final section of the book is concerned with AmigaDOS, and at over 400 pages, is easily the largest. This in part reflects the inadequacy of Commodore's own documentation in this area, and in part, the BCPL heritage of AmigaDOS. Starting off with a look at BCPL itself (including sample source code for a BCPL AmigaDOS command), Ralph also explains how BCPL's Global Vector affects AmigaDOS executables (now obsolete, but important if you are writing system code that must run under Kickstart 1.3).

Another topic covered in some depth is how to create your own custom CLI, which can replace Commodore's standard offering. Commodore hint at this in the AmigaDOS documentation, but never go any further—you'll find the important details right here. The same goes for how to open a CLI window on a custom screen under Workbench 1.3. (Actually, on second thoughts, you really *don't* want to know how to do that.)

Equally comprehensive is the coverage of the AmigaDOS filesystem (both old and fast); the directory-caching option of Kickstart 3.0 isn't covered, however. More interesting is the discussion of how to write your own filesystem. This includes a full list of all the packets you're expected to support, along with explanations of what functionality you need to provide, and how to provide it. Lower level details such as how to avoid deadlocking your device handler when scanning the DOS device list are not forgotten. I've written several Amiga handlers in the past, and I could have saved myself a lot of anguish had this book been around back then.

For most readers however, the most useful part of the AmigaDOS section will be the AmigaDOS reference guide, which has the most comprehensive coverage of all the *dos.library* functions I've ever seen. Going beyond simply detailing the operation of each function, it includes information about ambiguous behaviour, common mistakes, system bugs, and unimplemented features that Commodore forgot to make clear.

The AmigaDOS section rounds off with a look at the DOS executable file format: as with everything else in the book, nothing is left out, and you'll find information here that's not available anywhere else.

All Work and No Play...

If *The Amiga Guru Guide* simply covered the topics listed above, it would rate as a must-buy by most serious Amiga programmers. However, it also features a number of touches which make it not only readable but entertaining as well.

Each of the 22 chapters begins with several witty and apt quotes, drawn from a wide variety of sources. In addition, there are quite a few diversions regarding the history behind certain Amiga features. And finally, the writing itself is just plain readable. On top of this, it's plain that the author knows his material inside out—though I had my eyes peeled, I didn't spot a single factual error. My only criticism would be that many of the example programs assume SAS/C 5.1, while SAS/C 6 has been available for quite some time now.

Other factors contribute to the books usefulness as well. Throughout the text, unobtrusive symbols are used to highlight items that are now obsolete, or which were introduced with Kickstart 2.0. Also, footnotes are frequently used to expand on topics that stray from the main subject.

Typographically, the book is well up to par. TEX was used for the typesetting, and the result is well formatted text that's easy on the eyes. The binding allows the book to lie flat when opened at most pages, which is convenient for referring to it from the keyboard. There's even a thoughtful 'ultimate ASCII' chart on the back page, which covers the entire Amiga ISO character set.

As I mentioned earlier, this book is not intended for the novice Amiga programmer. Advanced programmers will find it invaluable. However, intermediate level programmers will also find much of interest. In particular, the explanation of how Lattice C and SAS/C integrate with the rest of the system is essential reading, as is the coverage of Commodore's assembly language macros and FD files. The comprehensive DOS function reference is also a must-read.

If you're serious about programming your Amiga at the system level, you need this book. And as a bonus, you'll find out exactly *why* the Amiga 1000 startup tune sounds the way it does.

You may have some trouble tracking down The Amiga Guru Book. *I ordered my copy from Hirsh & Wolf in Germany for DM79 + postage. You can contact them on* 0049-2631-83990.

GVP A4008 SCSI Controller

by Karl Jeacle

For the last year, *Amiga Format* had been telling me how great the world of Amiga CD was, and now the Amiga CD^{32} was here. After seeing the October 1993 Fresh Fish CD being demonstrated at CUGI, I decided it was finally time to give in, and get a CD-ROM for my Amiga.

First however, I'd need a SCSI controller. After quite a bit of research, I eventually chose GVP's A4008 card. I ordered it from AmigaMan in the USA. They charged US$159 for the board and US$20 for shipping and insurance; my credit card was charged a total of IR£128.01. It took about 6 weeks to get here, but this was probably due to the overloaded postal system during the Christmas holidays.

Decisions... Decisions...

What should have been a reasonably simple case of just going out and buying a SCSI controller for my A4000 turned out to be a rather more complicated process than I had originally forseen.

The only two SCSI cards I was aware of for the Amiga 4000 were Commodore's A4091 (now reworked and distributed by DKB) and the Fastlane Z3. I'd read good reviews of the Fastlane board, and knew it was already in the shops; however prices were in the range of US$599 or STG£399—slightly more than I was prepared to spend just to get a CD-ROM attached! The A4091 board seemed to be in very short supply, but was significantly cheaper. Both of these cards were Zorro-III (A3000/A4000 only) SCSI-II controller cards.

Things started to get tricky when I discovered that early models of the A4000 were shipped with a broken Buster chip which prevented many Zorro-III boards from working correctly. The revision which had this problem was Rev 9, and sure enough, this was what was in my machine. To make matters worse, my Buster was surface mounted, so despite the fact that Commodore were aware of this problem, and were distributing new Busters with the A4091 card, my A4000 was too old and didn't have a socketed chip that could be easily replaced.

The Fastlane card, on the other hand, was smart. It knew about the broken Busters and had a work-around to compensate. Performance wouldn't be quite as good as with a fully functional Buster, but the card would still work well.

All of this meant that the A4091 just wasn't an option for me. The Fastlane Z3 card would work perfectly, but it was too expensive. I'd have to look for a Zorro-II SCSI-I card for the A2000 which would hopefully still work in an A4000.

The problem with old Zorro-II cards for the A2000 is that the Amiga 4000's 32-bit RAM is outside of the 24-bit DMA-able address space which these controller cards can see, so data can't be transferred directly from the SCSI device into main memory. This means the CPU ends up dealing with requests and individually copying a few bytes at a time to and from 32-bit memory. The transfer rates are abysmal.

One fix for this is a shareware program by Barry McConnell called *DMAfix* which patches some DOS library calls to do the CPU copies with larger buffers. This improves performance significantly. It works fine with cards like the A2091, but this whole scenario seemed quite unappealing to me.

Finally, I saw an advert for GVP's A4008 card. It was cheaper than the other A4000 cards, and was seemingly designed with the A4000 in mind, so it was definitely worth a look.

GVP Hardware

The A4008 turned out to be a reworked GVP HC8+ card. It's a full length Zorro-II card with space to mount a 3.5″ hard disk onboard, and SIMM sockets to install up to 8 Mb of 16-bit RAM in 2 Mb increments. The external connector is a standard DB-25 Female affair. On the card itself is a 50-pin male header which accepts standard SCSI ribbon cables, and a power plug for onboard drives.

The card overcomes DMA problems by essentially building *DMAfix* functionality into the card itself. Although, this is still a bit of a hack, I preferred this hardware solution to having to run a program which would patch OS calls every time I'd boot up.

Installing the card was no trouble at all. The only possible things to configure are some of the jumpers to say how much memory is on the board, and whether or not you want AutoBoot enabled. The card worked first time for me when I plugged it in.

The Documentation

Documentation is up to GVP's usual high standard. There is a 14 page booklet on installing the card itself, and a 68 page manual on the *Faaast-PREP 2.0* software for preparing and formatting hard drives. Both documents contain lots of useful information for the novice user.

The Software

Software for the card comes on a single floppy with a Commodore *Installer* script provided to do the dirty work. There's not much to it though. It copies the BindDrivers version of the *gvpscsi* driver into the Expansion drawer, and asks you if you want to install any of the GVP support software (such as the HD preparation software). It spotted I was using an A4000 and gave me a choice of RAM type to be used for buffers. Naturally, it suggested defaulting to Chip RAM given the problems which will arise if you use 32-bit Fast RAM.

While I've heard people swear by GVP's *FaaastPREP* software, I didn't have too much patience for it myself. The first thing I noticed was that it had never heard of DCFS. Apparently, the software was taken straight from the A2000 series cards. A long time *HDToolBox* user, I just used that program instead with command line arguments to specify the alternative SCSI device (*gvpscsi.device*).

To be fair though, GVP's software *is* quite extensive. It comes in two separate programs: *FastPrep* and *ExpertPrep*. *FastPrep* will make most of the decisions for you and automate the hard drive installation process, while *ExpertPrep* can be used later if desired to fine tune your hard drive.

Other software provided on the Install disk includes a memory test program for onboard RAM and GVP's *GVPinfo* program which tells you all kinds of things about your Amiga. It identifies the A4008 as 'GVP Impact Series-II SCSI DMA'.

Conclusion

As far as the performance of the card is concerned, I have really only been using it with a CD-ROM drive, which is obviously not pushing the card to its limits. I did have an old Quantum 105S installed for a few days and was getting transfer rates of around 700 Kbytes/sec.

Overall, I'm happy with the A4008. It's a reasonably cheap SCSI solution for the A4000 that just plugs in and goes without any DMA problems. For people who don't want to spend a fortune just to get a SCSI interface and for those not concerned about getting power-user performance from faster devices, the GVP card is a pretty safe bet.

CUGI Library

by Magnus Byne

The CUGI library has a large selection of Amiga books, including a range of Abacus books covering most aspects of the Amiga, and Commodore's Rom Kernel Manuals (essential if you are doing programming). In addition, there are reference books for the C64 and C128, along with general programming and computer books. We also have a selection of videos, covering the Amiga.

You can borrow books and videos from the CUGI library at any meeting, free of charge. They must be returned by the following meeting, but if nobody else wants to borrow them, you can renew them for two more weeks.

Here's a list of what's currently available (new titles may have been added by the time you read this):

Abacus

AmigaDos Inside and Out
Amiga for Beginners
Amiga Disk Drives Inside and Out
Amiga Guide for Advanced Programmers
Amiga Internals
Amiga Tricks and Tips
Desktop Video Guide

Commodore Reference Manuals

Amiga ROM Kernel, Libraries 2.0
Amiga ROM Kernel, Devices 2.0
Amiga ROM Kernel, Includes and Autodocs 2.0
Amiga ROM Kernel, Style Guide
Amiga ROM Kernel, Libaries and devices 1.3
Amiga ROM Kernel, Includes and AutoDocs 1.3
Amiga ROM Kernel, Hardware Refernce Mannual 1.3
Using the System Software 2.0
AmigaDos Manual 3rd Edition

The C Language

C Quick Reference

New C Primer Plus

The C Programming Language (K&R), 2nd edition

The C Library

Programming in C

General

Amiga Applications

Beginners Guide to the Amiga

Amiga Format Book

The Amiga System

AmigaDos

The Anatomy of the A590

ICPUG Newsletters

Graphics

Amiga Artist

Amiga Vision

Inside Amiga Graphics

Using Deluxe Paint (V2)

Programming

Mapping the Amiga

Amiga Programmers Handbook

68000 Pocket Book

MC68881/2 Motorola Data Book

Microcomputer Puzzles

Golden Oldies

C64 Programmers Reference Guide

C128 Programmers Reference Guide

C64 Service Manual

C128 Service Manual

Advanced C64 Machine Code

The Anatomy of the C64

The Anatomy of the 1541

Videos

History of the Amiga
The Deluxe Paint IV Video Guide
Amiga Animation Video Volume 2
CU Amiga's guide to Amiga Video
Space Wars

Hardware

The CUGI library also has the following hardware available for loan:

- Audio Sampler
- Video Backup System
- Modem (2400 bps)
- Video Digitizer

You need to be a member of the club for at least six months before you are entitled to borrow any hardware items. For the Audio Sampler and Video Backup System, there is a rental charge of £2 and a £3 deposit. For the other items, there is a rental charge of £3 and a £7 deposit.

Unfortunately the club scanner is broken at the moment, but we have ordered parts for it and hopefully it will be working again soon. When you borrow hardware from the club, everyone else in the club relies on you to treat their investment with respect, so be careful.

For more information contact me at any club meeting.

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